CLAIMS

1. A method of modulating a digital signal of width L in frequency on a given useful frequency band comprising the following steps:
   - a separation of the digital signal into N blocks b_n ($1 \leq n \leq N$),
   - a splitting of the given useful frequency band into N contiguous parts P_n,
   - a definition of channels C_n, of width l_n in frequency, lying within an associated part P_n, the channels C_n being separated,
   - a distributing of each block of digital signals b_n over the associated channel C_n.

2. The method of modulation as claimed in the claim 1 wherein the channels C_n are defined by taking account of a predetermined minimum distance between the channels.

3. The method of modulation as claimed in the claim 2 wherein it comprises a step of determining the minimum distance between the channels, the minimum distance being determined as a function of the number N of channels, of their width l_n, and of the mean width of the frequency band affected by the phenomenon of flat fading.

4. The method of modulation as claimed in the claim 3 wherein the minimum distance is determined in such a way that a minority of channels C_n are affected by the phenomenon of flat fading.

5. The method of modulation as claimed in the claim 1 wherein the channels C_n are of identical widths equal to an Nth of the width of the digital signal L: $l_n = L/N$, $\forall\ 1 \leq n \leq N$.

6. The method of digital modulation as claimed in the claim 1 wherein :

- the digital signal is separated into N = 2 blocks b_n,
- the given useful frequency band is split into N = 2 parts P_n,
- the first block b_1 is distributed over a channel C_1 of width L/2 lying within the first part P_1 of the given useful frequency band and the second block b_1 is distributed over a channel C_2 of width L/2 lying within the second part P_2 of the given useful frequency band.

7. The method of modulation as claimed in the claim 1 wherein that the given useful frequency band is the FM band.

8. A modulator of digital signals over a given useful frequency band implementing the method of modulation as claimed in the claims 1 wherein it comprises:

- means of separation (31) of the digital signal into N blocks b_n ($1 \leq n \leq N$),
- means of splitting (32) of the given useful frequency band into N contiguous parts P_n,
- means of definition (33) of channels C_n of width l_n in frequency, lying within the associated part P_n,
- means of distributing (34) of each block of digital signals b_n over the associated channel C_n.

9. A demodulator of digital signals conveyed on a given useful frequency band by a transmitter comprising a modulator as claimed in claim 8 wherein it comprises:

- means of scanning (81) of the N channels C_n making it possible to read the N blocks b_n of signals distributed over these channels,
- means of recombination (82) of the N blocks read $\hat{b}_n$ in the N channels C_n into a digital signal $\hat{s}[m]$.

10. A transmitter of digital signals on a given useful frequency band comprising at least one transmission chain comprising a modulator as claimed in claim 8 wherein the transmission chain comprises an error corrector coder (10) conveying the coded digital signal $c^q[m]$ to the modulator (30).

11. The transmitter as claimed in the claim 10 wherein the transmission chain comprises an interleaver (20) placed between the error corrector coder (10) and the modulator (30).

12. The transmitter as claimed in the claim 10 wherein with each of the Q transmission chains is associated a distinct set of channels $\{C^q_n\}$.

13. A receiver of digital signals conveyed on a given useful frequency band by a transmitter as claimed in claim 10 comprising a demodulator as claimed in claim 9 and in that it comprises a decoder (100) associated with the error corrector coder (10) of the transmitter receiving the digital signal recombined $\hat{s}[m]$ by the demodulator (80).

14. A receiver of digital signals conveyed on a given useful frequency band by a transmitter claim 11 comprising a demodulator as claimed in claim 9 in that it comprises,

- a deinterleaver (90) associated with the interleaver (20) of the transmitter receiving the digital signal recombined $\hat{s}[m]$ by the demodulator (80),
- a decoder (100) associated with the error corrector coder (10) of the transmitter receiving the digital signal recombined deinterleaved $\hat{c}[m]$ by the deinterleaver (90).

15. Use of the transmitter as claimed in the claim 10 and of the receiver as claimed in the claim 13 for the conveying of digital signals in the FM band.